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Report of the Committee on the Peaceful Uses of Outer Space

General Assembly
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Fifty-ninth session
Supplement No. 20 (A/59/20)

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Chapter I

Introduction

1. The Committee on the Peaceful Uses of Outer Space held its forty-seventh session in Vienna from 2 to 11 June 2004. The officers of the Committee were as follows:

Chairman: Adigun Ade Abiodun (Nigeria)

First Vice-Chairman: Ciro Arévalo Yepes (Colombia)

Second Vice-Chairman/Rapporteur: Parviz Tarikhi (Islamic Republic of Iran)

The unedited verbatim transcripts of the meetings of the Committee are contained in documents COPUOS/T.518-533.

A. Meetings of subsidiary bodies

2. The Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space had held its forty-first session in Vienna from 16 to 27 February 2004, under the chairmanship of Dumitru-Dorin Prunariu (Romania). The report of the Subcommittee was before the Committee (A/AC.105/823).

3. The Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space had held its forty-third session in Vienna from 29 March to 8 April 2004, under the chairmanship of Sergio Marchisio (Italy). The report of the Subcommittee was before the Committee (A/AC.105/826). The unedited verbatim transcripts of the meetings of the Subcommittee are contained in documents COPUOS/Legal/T.693-710.

B. Adoption of the agenda

4. At its opening meeting, the Committee adopted the following agenda:

1. Opening of the session.
2. Adoption of the agenda.
3. Election of officers.
4. Statement by the Chairman.
5. General exchange of views.
6. Ways and means of maintaining outer space for peaceful purposes.
7. Implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III).
8. Report of the Scientific and Technical Subcommittee on its forty-first session.
9. Report of the Legal Subcommittee on its forty-third session.

10. Spin-off benefits of space technology: a review of current status.

11. Space and society.

12. Space and water.

13. Composition of the bureaux of the Committee and its subsidiary bodies for the period 2006–2007.

14. Other matters.

15. Report of the Committee to the General Assembly.

C. Election of officers

5. At the 518th meeting, on 2 June, Adigun Ade Abiodun (Nigeria) was elected Chairman of the Committee, Ciro Arévalo Yepes (Colombia) as its First Vice-Chairman and Parviz Tarikhi (Islamic Republic of Iran) as its Second Vice-Chairman/Rapporteur, for a two-year term of those offices.

D. Membership

6. In accordance with General Assembly resolutions 1472 A (XIV) of 12 December 1959, 1721 E (XVI) of 20 December 1961, 3182 (XXVIII) of 18 December 1973, 32/196 B of 20 December 1977, 35/16 of 3 November 1980, 49/33 of 9 December 1994, 56/51 of 10 December 2001 and 57/116 of 11 December 2002 and decision 45/315 of 11 December 1990, the Committee on the Peaceful Uses of Outer Space was composed of the following 65 States: Albania, Algeria, Argentina, Australia, Austria, Belgium, Benin, Brazil, Bulgaria, Burkina Faso, Cameroon, Canada, Chad, Chile, China, Colombia, Cuba, Czech Republic, Ecuador, Egypt, France, Germany, Greece, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Italy, Japan, Kazakhstan, Kenya, Lebanon, Malaysia, Mexico, Mongolia, Morocco, Netherlands, Nicaragua, Niger, Nigeria, Pakistan, Peru, Philippines, Poland, Portugal, Republic of Korea, Romania, Russian Federation, Saudi Arabia, Senegal, Sierra Leone, Slovakia, South Africa, Spain, Sudan, Sweden, Syrian Arab Republic, Turkey, Ukraine, United Kingdom of Great Britain and Northern Ireland, United States of America, Uruguay, Venezuela and Viet Nam.

E. Attendance

7. Representatives of the following 55 States members of the Committee attended the session: Algeria, Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Burkina Faso, Canada, Chile, China, Colombia, Cuba, Czech Republic, Ecuador, Egypt, France, Germany, Greece, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Italy, Japan, Kazakhstan, Kenya, Malaysia, Mexico, Morocco, Netherlands, Nicaragua, Nigeria, Pakistan, Peru, Philippines, Poland, Portugal, Republic of Korea, Romania, Russian Federation, Saudi Arabia, Slovakia, South Africa, Spain, Sudan, Sweden, Syrian Arab Republic, Turkey, Ukraine, United Kingdom, United States, Venezuela and Viet Nam.

8. At its 518th meeting, the Committee decided to invite, at their request, representatives of Angola, the Holy See, Jordan, the Libyan Arab Jamahiriya, Switzerland and Thailand to attend its forty-seventh session and to address it, as appropriate, on the understanding that it would be without prejudice to further requests of that nature and that it would not involve any decision of the Committee concerning status.

9. Representatives of the United Nations Educational, Scientific and Cultural Organization attended the session.

10. The session was also attended by representatives of the ad hoc Group on Earth Observations, Association of Space Explorers, Committee on Earth Observation Satellites, European Space Agency, International Astronautical Federation, International Law Association, International Mobile Satellite Organization, International Society for Photogrammetry and Remote Sensing, International Space University, National Space Society, Space Generation Advisory Council and Spaceweek International Association.

11. A list of representatives of States members of the Committee, States not members of the Committee, United Nations entities and other organizations attending the session is contained in document A/AC.105/XLVII/INF/1/Rev.1.

F. General statements

12. The Committee welcomed the election of Adigun Ade Abiodun (Nigeria) as its Chairman, Ciro Arévalo Yepes (Colombia) as its First Vice-Chairman and Parviz Tarikhi (Islamic Republic of Iran) as its Second Vice-Chairman/Rapporteur.

13. The Committee expressed its appreciation to Raimundo González (Chile), its former Chairman, to Driss El Hadani (Morocco), its former First Vice-Chairman, and to Harijono Djojodihardjo and to Susetyo Mulyodrono (Indonesia), its former Second Vice-Chairmen/Rapporteurs, for their outstanding achievements during their tenure.

14. The Committee offered its congratulations to China on the success of its first manned space mission. It was noted that China was the third country, and the first developing country, to achieve such a capability.

15. The Committee also congratulated the United States and the European Space Agency (ESA) on the success of their missions to Mars.

16. The Committee noted that the above-mentioned achievements by China, the United States of America and ESA would contribute to further promoting the peaceful uses of outer space.

17. Statements were made by representatives of the following States members of the Committee during the general exchange of views: Algeria, Argentina, Australia, Austria, Brazil, Bulgaria, Canada, Chile, China, France, Germany, Hungary, India, Indonesia, Iran (Islamic Republic of), Italy, Japan, Malaysia, Morocco, Nigeria, Pakistan, Poland, Republic of Korea, Russian Federation, South Africa, Syrian Arab Republic, Turkey and the United States. The representatives of the Libyan Arab Jamahiriya and Thailand also made statements. Statements were also made by the representatives of the International Astronautical Federation (IAF), the International

Society for Photogrammetry and Remote Sensing, the National Space Society and the United Nations Educational, Scientific and Cultural Organization (UNESCO).

18. At the 518th meeting, on 2 June 2004, the Chairman made a statement outlining the work of the Committee at its current session. The Chairman invited the Committee to identify new areas for the application of space technologies for sustainable development globally by, inter alia, identifying initiatives to ensure the effective use of space capabilities to promote global health and education and to strengthen decision-making in the management of natural resources, particularly water resources.

19. Also at the 518th meeting, the President of the fifty-eighth session of the General Assembly, Julian Robert Hunte (Saint Lucia), made a statement to the Committee.

20. Also at the 518th meeting, statements were made by the representatives of Algeria (on behalf of the Group of 77 and China), Colombia (on behalf of the Group of Latin American and Caribbean States) and Jordan (on behalf of the Group of Asian States).

21. At the 519th meeting, on 2 June, the Director of the Office for Outer Space Affairs of the Secretariat made a statement, in which he reviewed the work carried out by the Office during the previous year. The Committee expressed its appreciation to the Director for the services provided and work conducted by the Office in the previous year.

22. At the 521st meeting, on 3 June, Vladimír Kopal (Czech Republic), Chairman of the Legal Subcommittee from its thirty-eighth to forty-second sessions, gave a special lecture providing a historical perspective and his personal reflection on the development of the Committee. The Committee welcomed his lecture and expressed its appreciation to Mr. Kopal for his valuable contribution to the work of the Committee and its Legal Subcommittee.

23. The Committee heard the following presentations under the general exchange of views:

(a) "'Phobos' sample return mission", by A. Zakharov of the Russian Federation;

(b) "Latest achievements of Yuzhnoye SDO in building of rocket engines", by V. Shnyakin of Ukraine;

(c) "Prospective directions of activities and projects of Yuzhnoye SDO in outer space exploration", by O. Degtyarov of Ukraine.

G. Adoption of the report of the Committee

24. After considering the various items before it, the Committee, at its 533rd meeting, on 11 June 2004, adopted its report to the General Assembly containing the recommendations and decisions set out below.

Chapter II

Recommendations and decisions

A. Ways and means of maintaining outer space for peaceful purposes

25. In accordance with paragraph 41 of General Assembly resolution 58/89 of 9 December 2003, the Committee continued its consideration, as a matter of priority, of ways and means of maintaining outer space for peaceful purposes.

26. The Committee noted with satisfaction the agreement of the Assembly that, during its consideration of the matter, the Committee could consider ways to promote regional and interregional cooperation based on experiences stemming from the Space Conferences of the Americas and the role space technology could play in the implementation of recommendations emerging from the World Summit on Sustainable Development.[1]

27. The Committee was of the view that, through its work in the scientific, technical and legal fields, the Committee had a fundamental role to play in ensuring that outer space was maintained for peaceful purposes. That role could be strengthened by new initiatives, as well as by continued progress in implementing the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III).

28. With regard to the implementation of the recommendations of the World Summit on Sustainable Development, the Committee had before it a list compiled from information submitted by member States of the Committee and entities of the United Nations system on their space-related initiatives and programmes that correspond to recommendations contained in the plan of implementation (A/AC.105/2004/CRP.8).[2]

29. Under this agenda item, the Committee heard a presentation by Liu Xiaohong of China entitled "Outer space activities of China".

30. Some delegations expressed the view that, as the number of outer space activities increased, so did the risk of the introduction of weapons into outer space; if such a risk were to become a reality, the concept of the peaceful uses of outer space would be undermined, as would the basis for, and the very logic of, the development of non-proliferation mechanisms and, in fact, the entire system of international security.

31. Some delegations were of the view that, although the Committee had been playing an important role in enhancing international cooperation in the exploration and peaceful uses of outer space, the matter of maintaining outer space for peaceful purposes had not been receiving the attention it required in the deliberations of the Committee.

32. Some delegations expressed the view that, in order to prevent an arms race in outer space more effectively, the Committee should establish a practical mechanism for coordinating its work with that of other relevant bodies, such as the Conference on Disarmament.

33. The view was expressed that the Committee had been established as the only standing body of the General Assembly concerned exclusively with promoting international cooperation in the peaceful uses of outer space and that it had been clear at the time that the Committee was established that there would be entirely independent efforts to address disarmament issues, including in forums such as the First Committee of the General Assembly and the Conference on Disarmament.

34. The view was expressed that one of the best ways of maintaining outer space as an area for research and peaceful use was through the implementation of the current space treaties and the participation of all interested parties in a joint development of space science and technology.

35. The view was expressed that the best way to maintain outer space for peaceful purposes was to further strengthen international cooperation in the field in order to enhance the safety and security of the space assets of all countries.

36. The Committee recommended that, at its forty-eighth session, in 2005, it should continue its consideration, on a priority basis, of the item on ways and means of maintaining outer space for peaceful purposes.

B. Implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space

37. In accordance with General Assembly resolution 58/89, the Committee considered an item on the implementation of the recommendations of UNISPACE III.

38. In accordance with paragraph 29 of resolution 58/89, the Committee, at its 518th meeting, on 2 June 2004, reconvened the working group to prepare a report for submission to the General Assembly, in order for the Assembly to review and appraise, at its fifty-ninth session, in 2004, the implementation of the recommendations of UNISPACE III and to consider further action and initiatives. At the same meeting, Niklas Hedman (Sweden) was elected Chairman of the working group.

39. At its 532nd meeting, on 11 June 2004, the Committee endorsed the recommendations of the working group (see annex I to the present report) and approved the draft report of the Committee as finalized by the working group for submission to the General Assembly for use in its review and appraisal of the implementation of the recommendations of UNISPACE III.

40. The Committee expressed its deep appreciation to Niklas Hedman (Sweden), Chairman of the Working Group, for his tireless efforts in successfully leading the Working Group and finalizing the report of the Committee to the General Assembly. The Committee also expressed its appreciation to the Secretariat, in particular to the

Chief of the Committee Services and Research Section, Takemi Chiku, for the excellent support provided in the preparation of the report.

41. The Committee agreed that a special event to highlight the contribution of space to improving the well-being of humankind, consisting of three high-level panels, could be held, without cost implications for the Office for Outer Space Affairs, at the fifty-ninth session of the General Assembly, during its review and appraisal of the implementation of the recommendations of UNISPACE III. The Committee agreed that the theme of the special event would be "Space to improve the human condition".3

42. The Committee noted that, in accordance with General Assembly resolution 58/89, the Scientific and Technical Subcommittee at its forty-first session had convened the Working Group of the Whole to consider the implementation of the recommendations of UNISPACE III. The Chairman of the Working Group of the Whole was Muhammad Nasim Shah (Pakistan).

43. The Committee had before it, for its consideration, the draft report of the Committee on the Peaceful Uses of Outer Space on the implementation of the recommendations of UNISPACE III (A/AC.105/L.255 and Add.1-8, A/AC.105/2004/CRP.6 and A/AC.105/2004/CRP.17).

44. The Committee heard the following presentations under this item:

(a) "Establishment of an internationally collaborated constellation system for global disaster and environmental prediction and monitoring", by Wang Keran of China;

(b) "Earth observations: bringing benefit to humankind", by C. Lautenbacher Jr. of the ad hoc Group on Earth Observations;

(c) "Satellite constellation 'Vulcan': monitoring of natural disasters and communications", by K. Boyarchuk of the Russian Federation.

45. The Committee expressed its appreciation to the chairpersons and members of the 12 action teams established by the Committee at its forty-fourth session and by the Scientific and Technical Subcommittee at its fortieth session for their work and effort in making progress in the implementation of the recommendations of UNISPACE III for which they were responsible.

46. The Committee noted with appreciation that 9 of the 12 action teams had submitted their final reports to the Committee at its forty-sixth session and to the Scientific and Technical Subcommittee at its fortieth and forty-first sessions (A/AC.105/823, para. 60).

47. The Committee noted with satisfaction that the Action Team on Near-Earth Objects (recommendation 14) had presented its interim report to the Scientific and Technical Subcommittee at its forty-first session.

48. The Committee took note with satisfaction of the report of the Action Team on Knowledge-Sharing (recommendation 9) on the progress made in its work.

49. The Committee noted with appreciation that the action teams had identified a number of concrete and pragmatic actions for implementing pilot projects.

50. The Committee agreed that the establishment of action teams to initiate the process of implementing the recommendations of UNISPACE III prioritized by Member States following the Conference was a successful and innovative mechanism and that the inputs received from the action teams could serve to guide the work of the Committee.

51. The Committee stressed the importance of the implementation of the recommendations of UNISPACE III. The Committee recalled that responsibility for implementing the recommendations rested with Member States; the Office for Outer Space Affairs, under the guidance of the Committee and its subsidiary bodies; intergovernmental organizations for multilateral cooperation; and other entities with space-related activities.

52. The Committee agreed that it was important to consider the links between the work of the Committee and the major global development agendas, in particular those of the Commission on Sustainable Development, in implementing the recommendations of the World Summit on Sustainable Development.

53. The Committee noted that there were similarities between the work of the Committee and the issues being addressed through the ad hoc Group on Earth Observations, particularly with regard to the Committee's implementation of the recommendations of UNISPACE III. The Committee also noted that the ad hoc Group on Earth Observations had been established following the Earth Observation Summit, held in Washington, D.C., on 31 July 2003, for the purpose of developing a 10-year implementation plan towards the creation of a comprehensive, coordinated and sustained Earth-observing system of systems to enable the continuous monitoring of the state of the Earth, increase understanding of dynamic Earth processes, enhance prediction of the Earth system and further implement environmental treaty obligations. The Committee also noted that the framework document for the 10-year implementation plan had been adopted at the second Earth Observation Summit, held in Tokyo on 25 April 2004, and that the Plan would be submitted to the third Earth Observation Summit, to be held in Brussels in February 2005. The Committee also noted that Member States, in particular developing countries, might wish to contribute to the efforts of the ad hoc Group to increase coordination and knowledge-sharing in space-based Earth observation.

54. The Committee noted that, among the activities being carried out by the pro tempore secretariat of the Fourth Space Conference of the Americas to implement the Plan of Action of the Conference,4 the Government of Colombia was organizing a seminar entitled "Agenda of Aerospace Activities for Colombia: the Latin American Experience", to be held at Rio Negro, Medellin, Colombia, from 24 to 27 June 2004. The objective of the seminar was to exchange experiences in Latin America and the Caribbean and elsewhere on establishing a space entity in order to enhance access to the socio-economic benefits accruing from the use of space technologies.

55. The Committee noted that the General Assembly, in paragraph 41 of its resolution 58/89, had agreed that, during its consideration of the item on ways and means of maintaining outer space for peaceful purposes, the Committee could consider ways to promote regional and interregional cooperation based on experiences stemming from the Space Conference of the Americas. The Committee also noted that, in paragraph 24 of the resolution, the Assembly had noted the desire

of Member States in the Latin American and Caribbean region to institutionalize the Conference of the Americas.

56. The Committee noted that the report on the international celebration of World Space Week in 2003, prepared by the Space International Association in cooperation with the Office for Outer Space Affairs, had been made available in a special publication (ST/SPACE/23).

57. The Committee noted with appreciation the reports by Member States on the promotion and organization of public outreach activities in celebration of World Space Week.

58. The Committee believed that the implementation of the recommendations of UNISPACE III would contribute significantly to addressing the challenges ahead, in particular poverty, environmental degradation, natural disasters and dwindling energy resources.

59. The Committee believed that some of the action teams could continue their work to further define and implement action plans by identifying the specific means, goals and tasks to complete those actions. Those action teams could inform the Scientific and Technical Subcommittee at its forty-second session, in 2005, of their intentions to continue their work.

60. The view was expressed that, while the action teams had identified a number of concrete and pragmatic actions for implementing pilot projects, their full implementation would be hampered by insufficient funding. That delegation was of the view that developed countries could play a major role in assisting developing countries in implementing the recommendations of UNISPACE III by contributing to the trust fund of the Office for Outer Space Affairs, including by encouraging contributions from non-governmental entities and private industry, and allowing sufficient flexibility to enable the Office to utilize the funds to implement the UNISPACE III recommendations in accordance with the priorities set by the Committee.

61. The view was expressed that the space community should consider preparing a specific articulation of the essential contribution made by space science and technology to the evolution of a global information society for submission to the second phase of the World Summit on the Information Society, to be held in Tunis in November 2005.

C. Report of the Scientific and Technical Subcommittee on its forty-first session

62. The Committee took note with appreciation of the report of the Scientific and Technical Subcommittee on its forty-first session (A/AC.105/823), which covered the results of its deliberations on the items assigned to it by the General Assembly in resolution 58/89.

63. At the 524th meeting of the Committee, on 7 June, the Chairman of the Scientific and Technical Subcommittee made a statement outlining the work of the Subcommittee at its forty-first session.

64. Under agenda item 8, the Committee heard a presentation by C. Kosmas of Greece entitled "HERMES: on-orbit servicing".

1. United Nations Programme on Space Applications

(a) Activities of the United Nations Programme on Space Applications

65. At the commencement of the deliberations on this item, the Expert on Space Applications briefed the Committee on the overall strategy for the implementation of the United Nations Programme on Space Applications. The strategy would concentrate on several priority areas for developing countries and establish objectives that could be reached in the short and medium term. The Committee noted that, within each priority area, the main objectives would be (a) to introduce space technologies to educators and decision makers; (b) to stimulate discussions on regional needs and possibilities of using space technologies to find solutions to problems; and (c) to assist regions in launching pilot projects that utilize space technology applications and provide solutions to problems in order to meet regional needs.

66. The Committee noted that the priority areas of the Programme were (a) disaster management; (b) satellite communications for tele-education and telemedicine applications; (c) monitoring and protection of the environment, including the prevention of infectious diseases; (d) management of natural resources; and (e) education and capacity-building, including research areas in basic space sciences. Other areas that the Programme would focus on included developing capability in enabling technologies, such as the use of global navigation and positioning satellite systems, spin-offs of space technology, promoting the participation of youth in space activities, applications of small satellites and micro-satellites, and promoting the participation of private industry in activities of the Programme.

67. The Committee took note of the activities of the Programme carried out in 2003, as set out in the report of the Scientific and Technical Subcommittee (A/AC.105/823, paras. 41-44). The Committee expressed its appreciation to the Office for Outer Space Affairs for the manner in which the activities of the Programme had been implemented with the limited funds available. The Committee also expressed its appreciation to the Governments and intergovernmental and non-governmental organizations that had sponsored the activities. The Committee noted with satisfaction that further progress was being made in the implementation of the activities of the Programme for 2004, as set out in the report of the Subcommittee (A/AC.105/823, paras. 45-46).

68. The Committee once again expressed its concern that the financial resources available to the United Nations Programme on Space Applications remained limited and appealed to the donor community to support the Programme through voluntary contributions. The Committee held the view that the limited resources available to the United Nations should be focused on activities of the highest priority; it noted that the United Nations Programme on Space Applications was the priority activity of the Office for Outer Space Affairs.

(i) United Nations conferences, training courses and workshops

69. The Committee expressed its appreciation to China, the Islamic Republic of Iran, Sudan, Sweden, the United States and ESA for co-sponsoring and hosting United Nations activities held from January to June 2004 (A/AC.105/823, paras. 45 and 46 (a)-(d)).

70. The Committee endorsed the following workshops, training courses, symposiums and conferences planned for the remaining part of 2004, based on the programme of activities described in the report of the Expert on Space Applications (A/AC.105/815, annexes II and III):

(a) United Nations/Space and Upper Atmosphere Research Commission Regional Seminar on Monitoring and Protection of the Natural Environment: Educational Needs and Experience Gained from United Nations/Sweden Training Courses on Remote Sensing Education for Educators, to be held in Islamabad in September 2004;

(b) United Nations/Austria/European Space Agency Symposium on Water for the World: Space Solutions for Water Management, to be held in Graz, Austria, from 13 to 16 September 2004;

(c) United Nations/Saudi Arabia Regional Workshop on the Use of Space Technology for Disaster Management for Western Asia, to be held in Riyadh in October 2004;

(d) United Nations/International Astronautical Federation Workshop on the Use of Space Technology for the Benefit of Developing Countries, to be held in Vancouver, Canada, in October 2004;

(e) Fifth United Nations/International Academy of Astronautics Workshop on Small Satellites at the Service of Developing Countries, to be held in Vancouver, Canada, in October 2004;

(f) United Nations International Workshop on the Use of Space Technology for Disaster Management, to be held in Munich, Germany, from 18 to 22 October 2004;

(g) United Nations/European Space Agency/Austria/Switzerland Workshop on Remote Sensing in the Service of Sustainable Development in Mountain Areas, to be held in Kathmandu from 15 to 19 November 2004;

(h) United Nations/Brazil Workshop on Space Law, to be held in Rio de Janeiro, Brazil, from 22 to 25 November 2004;

(i) United Nations/United States International Meeting on the Use and Applications of Global Navigation Satellite Systems, to be held in Vienna in November/December 2004;

(j) Training courses to be organized at the regional centres for space science and technology education, affiliated to the United Nations.

71. The Committee endorsed the programme of workshops, training courses, symposiums and conferences planned to be held in 2005 for the benefit of developing countries, as follows:

(a) One workshop on basic space science;

(b) One workshop on space law, for the benefit of countries in Africa;

(c) One training course on satellite-aided search and rescue, to be held in Australia and for the benefit of the Pacific islands;

(d) Two workshops on the application of space technology to disaster management: the first, to be held in Greece, focusing on seismic monitoring and volcanic hazard assessment, and the second on preventing and managing natural disasters;

(e) One workshop to be held in Egypt, focusing on space technology applications for monitoring and assessing global change;

(f) Three workshops on the application of space technology to natural resources management and environmental monitoring, for the benefit of countries in Eastern Europe, Latin America and the Caribbean and mountainous areas in Asia;

(g) The third in a series of symposiums on the use of space technology in sustainable development, to be held in Graz, Austria, with the support of the Government of Austria and ESA;

(h) An expert meeting on the use and applications of global navigation satellite systems, to be held in Vienna, with the support of the United States;

(i) Activities in the areas of tele-health and tele-education, for the benefit of countries in Asia and the Pacific and in Latin America and the Caribbean;

(j) Training courses to be organized at the regional centres for space science and technology education, affiliated to the United Nations.

72. The Committee noted with appreciation that, since its forty-sixth session, additional resources for 2004 had been offered by various Member States and organizations.

73. The Committee noted with appreciation that the host countries of the regional centres for space science and technology education were providing significant financial and in-kind support to the centres.

(ii) Long-term fellowships for in-depth training

74. The Committee expressed its appreciation to ESA for having offered, in 2003, two fellowships for research in remote sensing technology at the European Space Research Institute in Frascati, Italy.

75. The Committee noted with satisfaction that the Istituto Superiore Mario Boella and the Politecnico di Torino of Italy had offered five long-term fellowships on global navigation satellite systems and the use of their signals for scientists and specialists from developing countries.

76. The Committee noted that it was important to increase the opportunities for in-depth education in all areas of space science, technology and applications through long-term fellowships and urged Member States to make such opportunities available at their relevant institutions.

(iii) Technical advisory services

77. The Committee noted with appreciation that the United Nations Programme on Space Applications had supported, collaborated with and provided assistance and technical advisory services to the joint United Nations/ESA follow-up programme on the use of remote sensing technology in sustainable development, the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization, the subgroup on capacity-building of the ad hoc Group on Earth Observations, the Ad Hoc Working Group on Earth Observation Education and Training of the Committee on Earth Observation Satellites (CEOS), the Asia-Pacific Satellite Communications Council, the Asociación Chilena del Espacio, the pro tempore secretariat of the Fourth Space Conference of the Americas, the Fundación Instituto de Ingeniería of the Ministry of Science and Technology of Venezuela and Joanneum Research of Graz, Austria.

(b) International Space Information Service

78. The Committee noted with satisfaction that the publications entitled *Seminars of the United Nations Programme on Space Applications*[5] and *Highlights in Space 2003*[6] had been issued.

79. The Committee noted with satisfaction that the Secretariat had continued to enhance the International Space Information Service and the web site of the Office for Outer Space Affairs (www.oosa.unvienna.org). The Committee also noted with satisfaction that the Secretariat was maintaining a web site on the coordination of outer space activities within the United Nations system (www.uncosa.unvienna.org).

(c) Regional and interregional cooperation

80. The Committee emphasized the importance of regional and international cooperation in making the benefits of space technology available to all countries by such cooperative activities as sharing payloads, disseminating information on spin-off benefits, ensuring the compatibility of space systems and providing access to launch capabilities at reasonable cost.

81. The Committee recalled that the General Assembly, in its resolution 50/27 of 6 December 1995, had endorsed the recommendation of the Committee that the regional centres on space science and technology education be established on the basis of affiliation with the United Nations as early as possible and that such affiliation would provide the centres with the necessary recognition and would strengthen the possibilities of attracting donors and of establishing academic relationships with national and international space-related institutions.

82. The Committee noted with satisfaction that the United Nations Programme on Space Applications continued to emphasize cooperation with Member States at the regional and international levels aimed at supporting the centres. The Committee noted that all the regional centres had entered into an affiliation agreement with the Office for Outer Space Affairs.

83. The Committee also noted that the highlights of the activities of the regional centres supported under the Programme in 2003 and planned activities for 2004 and 2005 were included in the report of the Expert on Space Applications (A/AC.105/815, annex III).

84. The Committee noted with satisfaction that the Office for Outer Space Affairs was providing support to the Government of Jordan in its preparations for the establishment of the regional centre for space science and technology education for Western Asia.

85. The Committee noted with satisfaction the initiative of the Chilean Space Agency, in cooperation with the Office for Outer Space Affairs, in holding in Santiago on 1 and 2 April 2004, in the context of the International Air and Space Fair, a conference entitled "International Conference on Space and Water: Towards Sustainable Development and Human Security".

(d) International Satellite System for Search and Rescue

86. The Committee recalled that, at its forty-fourth session, it had agreed that a report on the activities of the International Satellite System for Search and Rescue (COSPAS-SARSAT) should be considered annually by the Committee as part of its consideration of the United Nations Programme on Space Applications and that member States should report on their activities regarding COSPAS-SARSAT.[7]

87. The Committee noted with satisfaction that COSPAS-SARSAT, a cooperative venture initiated in the late 1970s, involving Canada, France, the Russian Federation and the United States, was using space technology to assist aviators and mariners in distress around the globe. Since 1982, COSPAS-SARSAT had introduced analogue and digital emergency beacons worldwide. COSPAS-SARSAT had expanded its space segment to include ad hoc payloads on geostationary and low-Earth orbit satellites that currently provided alert signals.

88. The Committee noted with satisfaction that the search and rescue payload of the geostationary orbit satellite Indian National Satellite (INSAT)-3 of India was being used operationally for search and rescue operations.

89. The Committee noted with satisfaction that COSPAS-SARSAT currently had 37 member States and that its members were from every continent. Those States had helped to deploy a robust ground network and alert data distribution system. COSPAS-SARSAT had assisted in the rescue of over 17,000 persons in almost 5,000 distress incidents or accidents since 1982.

2. Matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth's environment

90. The Committee noted that, in accordance with General Assembly resolution 58/89, the Scientific and Technical Subcommittee had continued its consideration of matters relating to remote sensing of the Earth by satellite. The Committee took note of the discussion of the Subcommittee under that agenda item, as reflected in the report of the Subcommittee (A/AC.105/823, paras. 72-83).

91. The Committee emphasized the importance of remote sensing technology for sustainable development. In that connection, it also emphasized the importance of providing non-discriminatory access to state-of-the-art remote sensing data and to derived information at reasonable cost and in a timely manner.

92. The Committee further emphasized the importance of building capacity in the adoption and use of remote sensing technology, in particular to meet the needs of developing countries.

93. The Committee also highlighted the importance of international cooperation among member States in the use of remote sensing satellites, particularly by sharing experiences and technologies.

3. Space debris

94. The Committee noted that, in accordance with General Assembly resolution 58/89, the Scientific and Technical Subcommittee had continued its consideration of the item on space debris in accordance with the work plan adopted at its thirty-eighth session (A/AC.105/761, para. 130). The Committee took note of the discussion of the Subcommittee on space debris, as reflected in the report of the Subcommittee (A/AC.105/823, paras. 84-107).

95. The Committee agreed with the Scientific and Technical Subcommittee that consideration of space debris was important, that international cooperation was needed to develop more appropriate and affordable strategies to minimize the potential impact of space debris on future space missions and that member States should pay more attention to the problem of collisions of space objects, including those with nuclear power sources on board, with space debris and to other aspects of space debris (A/AC.105/823, para. 89), pursuant to General Assembly resolution 58/89.

96. The Committee noted with satisfaction that the Subcommittee, at its forty-first session, in accordance with General Assembly resolution 58/89, had established a working group to consider comments received from member States of the Committee on the proposals on debris mitigation presented by the Inter-Agency Space Debris Coordination Committee (IADC) to the Subcommittee at its fortieth session (A/AC.105/823, para. 92). The Committee also noted that the Subcommittee had endorsed the recommendations of the Working Group on Space Debris as contained in its report (A/AC.105/823, para. 93 and annex III).

97. The Committee expressed its appreciation for the work of IADC regarding the IADC space debris mitigation guidelines and expressed its hope that IADC would further develop that document, taking into account comments submitted by member States.

98. The view was expressed that the fastest way to limit the growth of orbital debris would be for space-faring countries to implement the measures specified in the IADC space debris mitigation guidelines.

99. The view was expressed that the Subcommittee should proceed to endorse the IADC proposals on space debris mitigation, first as voluntary measures and later as a basis for binding legal provisions.

100. The view was expressed that the IADC space debris mitigation guidelines should be implemented by States on a voluntary basis, since not all States had the technical and financial capabilities required to follow the guidelines.

101. The view was expressed that the subject of space debris was extremely important for the preservation of the outer space environment, so that all developing countries would be able to explore outer space with no constraints.

102. The view was expressed that the burden of following IADC space debris mitigation guidelines was not the same for developed countries as it was for

developing countries and therefore the former should help the latter in following the guidelines.

103. The view was expressed that the technological and financial means for the mitigation of space debris should be provided to developing countries, in order to enable them to step up their efforts to reduce space debris within their own space capabilities.

104. At the 527th meeting, on 8 June, the Chairman of the Working Group on Space Debris, Claudio Portelli (Italy), informed the Committee about the activities of the Working Group with regard to the implementation of its work plan.

105. The Committee noted with satisfaction that IADC would invite interested member States of the Committee to participate in an IADC meeting to be held in Vancouver, Canada, in October 2004. The Committee noted that the meeting would provide an opportunity to make progress towards achieving the objectives set by the Working Group on Space Debris.

4. Use of nuclear power sources in outer space

106. The Committee noted that, in accordance with General Assembly resolution 58/89, the Scientific and Technical Subcommittee had continued its consideration of the item relating to the use of nuclear power sources in outer space. The Committee took note of the discussion of the Subcommittee on the use of nuclear power sources in outer space, as reflected in the report of the Subcommittee (A/AC.105/823, paras. 108-118).

107. The Committee noted with satisfaction that the Subcommittee had reconvened its Working Group on the Use of Nuclear Power Sources in Outer Space. The Committee noted with satisfaction that the Working Group had also made progress in developing potential implementation options for establishing an international technically based framework of goals and recommendations for the safety of planned and currently foreseeable space nuclear power source applications.

108. Some delegations expressed the view that nuclear power sources should be used in outer space only on deep space missions or in other cases where their use was unavoidable.

109. The view was expressed that careful study and exchange of information would be needed if nuclear power sources were used close to the Earth.

110. The view was expressed that, if nuclear power sources were to be used in outer space, they ought to be made safe through both appropriate design and adequate operational measures to protect the Earth's population and environment.

111. At the 527th meeting, on 8 June, the Chairman of the Working Group on the Use of Nuclear Power Sources in Outer Space, Sam Harbison (United Kingdom), reported on the status of the informal consultations among members of the Working Group that had been held during the forty-seventh session of the Committee.

112. The Committee noted with satisfaction that, as a result of those informal consultations, the document entitled "Proposed outline of objectives, scope and attributes for an international technically based framework of goals and recommendations for the safety of planned and currently foreseeable nuclear power source applications in outer space" (A/AC.105/L.253) and the document entitled

"Preliminary draft of flow charts for potential implementation options for establishing an international technically based framework of goals and recommendations for the safety of planned and currently foreseeable nuclear power source applications in outer space" (A/AC.105/L.254) would be updated and resubmitted to the Scientific and Technical Subcommittee at its forty-second session, in 2005.

5. Space-system-based telemedicine

113. The Committee noted that, in accordance with General Assembly resolution 58/89, the Scientific and Technical Subcommittee had considered an item on space-system-based telemedicine under the three-year work plan adopted by the Subcommittee at its fortieth session. The Committee took note of the discussion of the Subcommittee under that agenda item, as reflected in the report of the Subcommittee (A/AC.105/823, paras. 119-127).

114. The Committee noted with satisfaction the progress made in addressing the multi-year work plan on the item on space-system-based telemedicine. The Committee also noted that statements and presentations made under the agenda item had demonstrated the remarkable progress in and potential of space-system-based telemedicine and the strong interest of the international community in sharing and learning from the work currently being done in that area.

115. The Committee noted that the rapid delivery of public health care, including in rural areas, could be provided for by means of space-system-based telemedicine and that a significant number of problems facing developing countries in the health sector could be solved by integrating telemedicine and/or tele-health services into existing health-care practice. The Committee also noted that applications of space-system-based telemedicine could help to enhance surveillance and control of many diseases in Africa, such as dracunculiasis (Guinea worm disease), dengue fever, Rift Valley fever, cholera and meningitis.

6. Examination of the physical nature and technical attributes of the geostationary orbit and of its utilization and applications, including, inter alia, in the field of space communications, as well as other questions relating to developments in space communications, taking particular account of the needs and interests of developing countries

116. The Committee noted that, in accordance with General Assembly resolution 58/89, the Scientific and Technical Subcommittee had continued its consideration of the item on the geostationary orbit and space communications as a single issue/item for discussion. The Committee took note of the discussion of the Subcommittee under that agenda item, as reflected in the report of the Subcommittee (A/AC.105/823, paras. 128-133).

117. Some delegations noted that the geostationary orbit was a limited natural resource with sui generis characteristics that risked saturation.

118. The view was expressed that there was a lack of progress in the Subcommittee on the matter of the geostationary orbit. That delegation suggested that the member States concerned provide further refinements to the working paper submitted to the Subcommittee by the Czech Republic (A/AC.105/C.1/L.216) or consider

formulating a multi-year work plan so that all relevant issues relating to that agenda item could be considered in depth by the Subcommittee.

7. Implementation of an integrated, space-based global natural disaster management system

119. The Committee noted that, in accordance with General Assembly resolution 58/89, the Scientific and Technical Subcommittee had considered an item on implementation of an integrated, space-based global natural disaster management system as a single issue/item for discussion. The Committee took note of the discussion of the Subcommittee under that agenda item, as reflected in the report of the Subcommittee (A/AC.105/823, paras. 134-150).

120. The Committee noted with satisfaction the progress made by the Charter on Cooperation to Achieve the Coordinated Use of Space Facilities in the Event of Natural or Technological Disasters (International Charter on Space and Major Disasters). In 2003, the National Commission on Space Activities of Argentina had joined the Charter and the Japan Aerospace Exploration Agency had decided to apply to join it. That would increase to seven the number of space agencies that had made their space assets available to civil protection authorities responding to a major disaster.

121. The Committee noted that the Office for Outer Space Affairs had become a cooperating body to the International Charter on Space and Major Disasters, thus making it possible for any United Nations entity to request imagery from the Charter to facilitate relief efforts immediately following a natural or technological disaster. Since the Office had set up a hotline, the Charter had been used nine times: in response to floods in the Dominican Republic, Haiti, Namibia and Nepal, landslides in the Philippines, earthquakes in Afghanistan, Indonesia and Morocco and following a train crash in the Democratic People's Republic of Korea.

122. The Committee recognized the important contributions that the Action Team on Disaster Management had made towards defining concrete steps that would contribute to the implementation of an integrated, space-based global natural disaster management system and agreed that the Action Team should undertake further study to establish, within the framework of the United Nations, an international organization for the coordination of space activities for disaster management.

123. Some delegations expressed the view that the establishment of such an international organization should be supported and that the organization should function within the United Nations system.

124. The Committee noted with satisfaction that, at its forty-first session, the Scientific and Technical Subcommittee had adopted a multi-year work plan to consider an item on space-system-based disaster management support, starting with its forty-second session, in 2005.

125. The Committee noted the work being carried out by CEOS, specifically with regard to module 3 of the CEOS programme to follow up on the World Summit on Sustainable Development, which would address disaster management and the environmental and humanitarian impact of conflicts. The module, to be initiated in 2004, would focus on working towards increasing awareness of the applications for

and utilization of Earth observation data in developing countries and would assist in the establishment of infrastructure and communications related to disaster management and the environmental and humanitarian impact of conflicts.

126. The Committee noted that the Earth Observation Summit, held in Washington, D.C., on 31 July 2003, and the activities of the ad hoc Group on Earth Observations, established as a result of the Summit, were intended to facilitate access to space and in situ data and that such access would support disaster management efforts, especially in developing countries.

127. The Committee noted that the World Conference on Disaster Reduction, to be held from 18 to 22 January 2005 in Kobe, Japan, would focus on a review of progress over the past decade, based on the Yokohama Strategy for a Safer World: Guidelines for Natural Disaster Prevention, Preparedness and Mitigation, containing the Principles, the Strategy and the Plan of Action (A/CONF.172/9, chap. I, resolution 1, annex I), and the definition of a set of specific goals, activities and policy measures for implementation in the period 2005-2015. The Committee also noted that space technology could play a central role in disaster reduction and that both the Committee and the Scientific and Technical Subcommittee could contribute to the World Conference and its follow-up, ensuring that space technologies would be an integral part of the solutions put forward in the Conference's plan of implementation.

128. The Committee noted that the African Resource Management constellation of satellites was a priority project in the New Partnership for Africa's Development science and technology programmes. When launched, the African Resource Management constellation would provide valuable, real-time and reliable data for the mapping and management of the resources of Africa, as well as for environment management and for the early warning, prevention and management of disasters.

129. In accordance with General Assembly resolution 58/89, a workshop with the theme of "Satellites for disaster communications: saving lives from natural disasters" was held on 7 June 2004. The workshop was chaired by Hans Zimmermann of the Office for the Coordination of Humanitarian Affairs of the Secretariat.

130. The following presentations were made at the workshop: "Inmarsat: global mobile satellite communications", by T. Bradley of Inmarsat; "The role of mobile satellite communications", by G. Larionov of Thuraya Satellite Telecommunications Company; "How satellite-based communications can be used during natural disasters", by J. Schroeder of Iridium Satellite LLC; "Disaster management communications plans for India: the role of the INSAT system", by M.Y.S. Prasad of the Indian Space Research Organisation, on behalf of Antrix Corporation; and "Satellite solutions for crisis situations", by G. Donelan of SES-Astra. The presentations were followed by a panel discussion on the theme "Working together to save lives: how to enhance Government-industry cooperation".

131. The Committee noted that the workshop participants had emphasized that it was important for Governments to have disaster response preparedness plans in their countries and to be prepared to use their own resources, as well as to create a better regulatory environment to facilitate the use of telecommunications, including via satellite, in response to disasters. The Committee also noted that the workshop participants had invited the United Nations International Workshop on the Use of

Space Technology for Disaster Management, to be held in Munich, Germany, from 18 to 22 October 2004, to take note of the outcome of the workshop on satellites for disaster communications.

8. Solar-terrestrial physics

132. The Committee noted that, in accordance with General Assembly resolution 58/89, the Scientific and Technical Subcommittee had considered an agenda item on solar-terrestrial physics as a single issue/item for discussion. The Committee took note of the discussion of the Subcommittee under that agenda item, as reflected in the report of the Subcommittee (A/AC.105/823, paras. 151-158).

133. The Committee noted that the effects of solar activities and space weather phenomena on the daily lives of humans, on the Earth's environment and on space systems were becoming more apparent and that there was a need to collaborate to develop a better understanding of those effects.

134. The Committee noted that the interaction of severe magnetic storms caused by coronal mass ejections from the Sun with satellites in geostationary orbit would require further study before space weather could be predicted accurately.

135. The Committee noted with satisfaction that the Scientific and Technical Subcommittee, at its forty-second session, in 2005, would continue to consider solar-terrestrial physics and to examine how the Subcommittee might support and enhance the coordination and planning of worldwide activities marking International Geophysical and Heliophysical Year 2007.

9. Draft provisional agenda for the forty-second session of the Scientific and Technical Subcommittee

136. The Committee noted that, in accordance with General Assembly resolution 58/89, the Scientific and Technical Subcommittee had considered proposals for a draft provisional agenda for its forty-second session. The Subcommittee had endorsed the recommendations of its Working Group of the Whole concerning the draft provisional agenda for the forty-second session of the Subcommittee (A/AC.105/823, paras. 159-161 and annex II).

137. The Committee endorsed the recommendation to continue the practice of alternating each year the organization of the symposium by the Committee on Space Research (COSPAR) and IAF and the symposium to strengthen the partnership with industry. The Committee agreed that in 2005, the symposium organized by COSPAR and IAF would be held and the industry symposium would be suspended (A/AC.105/823, annex II, para. 21).

138. The Committee endorsed the recommendation that the COSPAR and IAF symposium, to be held during the first week of the forty-second session of the Subcommittee, in 2005, should address high-resolution and hyperspectral satellite data integration for precision farming, environmental monitoring and possible new applications (A/AC.105/823, annex II, para. 22).

139. The Committee endorsed the recommendation that the Subcommittee, in 2005, should consider an agenda item on space-system-based disaster management support in accordance with the multi-year work plan agreed upon by the Subcommittee (A/AC.105/823, annex II, para. 15).

140. The Committee endorsed the recommendation that the Subcommittee, in 2005, should consider an agenda item on near-Earth objects in accordance with the multi-year work plan agreed upon by the Subcommittee (A/AC.105/823, annex II, para. 18).

141. The Committee endorsed the recommendation to revise the plan for 2005 contained in the work plan for space debris, agreed upon by the Subcommittee at its thirty-eighth session, in 2001, to allow the Working Group on Space Debris to consider, as necessary, the IADC proposals on space debris mitigation and any related comments that might be received.

142. The Committee endorsed the recommendation that an agenda item entitled "Support to proclaim the year 2007 International Geophysical and Heliophysical Year" be included in the agenda for the forty-second session of the Scientific and Technical Subcommittee, in 2005 (A/AC.105/823, annex II, para. 14).

143. The Committee noted that the special presentations made to the Scientific and Technical Subcommittee on a wide variety of topics increased the technical content of the deliberations and provided timely information on new developments in space activities.

144. On the basis of the deliberations of the Scientific and Technical Subcommittee at its forty-first session, the Committee agreed on the following draft provisional agenda for the forty-second session of the Subcommittee:

1. General exchange of views and introduction to reports submitted on national activities.

2. United Nations Programme on Space Applications.

3. Implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III).

4. Matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth's environment.

5. Items to be considered under work plans:

   (a) Space debris;

   (Member States begin annual reporting on a voluntary basis of national activities to implement the proposals on space debris mitigation)[8]

   (Consideration by the Working Group on Space Debris, as necessary, of the proposals on space debris mitigation and such further related comments as may be received)

   (b) Use of nuclear power sources in outer space;

   (Work for 2005 as reflected in the multi-year work plan contained in document A/AC.105/804, annex III)

   (c) Space-system-based telemedicine;

(Work for 2005 as reflected in the multi-year work plan contained in document A/58/20, para. 138)

(d) Near-Earth objects;

(Work for 2005 as reflected in the multi-year work plan contained in document A/AC.105/823, annex II)

(e) Space-system-based disaster management support.

(Work for 2005 as reflected in the multi-year work plan contained in document A/AC.105/823, annex II).

6. Single issues/items for discussion:

(a) Examination of the physical nature and technical attributes of the geostationary orbit and its utilization and applications, including, inter alia, in the field of space communications, as well as other questions relating to developments in space communications, taking particular account of the needs and interests of developing countries;

(b) Support to proclaim the year 2007 International Geophysical and Heliophysical Year.

7. Draft provisional agenda for the forty-third session of the Scientific and Technical Subcommittee, including identification of subjects to be dealt with as single issues/items for discussion or under multi-year work plans.

8. Report to the Committee on the Peaceful Uses of Outer Space.

D. Report of the Legal Subcommittee on its forty-third session

145. The Committee took note with appreciation of the report of the Legal Subcommittee on its forty-third session (A/AC.105/826), which contained the results of its deliberations on the items assigned to it by the General Assembly in resolution 58/89.

146. At the 524th meeting of the Committee, the Chairman of the Legal Subcommittee made a statement on the work of the Subcommittee at its forty-third session.

1. Status and application of the five United Nations treaties on outer space

147. The Committee noted that, in accordance with General Assembly resolution 58/89, the Legal Subcommittee had considered the status and application of the five United Nations treaties on outer space as a regular item and had reconvened its working group on the item under the chairmanship of Vassilios Cassapoglou (Greece).

148. The Committee noted that the terms of reference of the Working Group on the Status and Application of the Five United Nations Treaties on Outer Space included the status of the treaties, review of their implementation and obstacles to their universal acceptance, the promotion of space law, especially through the United Nations Programme on Space Applications, review of the application and

implementation of the concept of the "launching State", as reflected in the conclusions of the Subcommittee's consideration of the three-year work plan on "Review of the concept of the 'launching State'", as well as any new, similar issues that might be raised in discussions in the Working Group, provided that those issues fell within the existing mandate of the Working Group (A/AC.105/826, para. 27).

149. The Committee noted with satisfaction that the Working Group had agreed on the text of a draft resolution on the application of the concept of the "launching State", for consideration by the General Assembly. The Committee approved and agreed to submit to the General Assembly the draft resolution on the application of the concept of the "launching State", as contained in annex II to the present report.

150. The Committee agreed that the Secretary-General should be requested to send to the ministers for foreign affairs of States that had not yet become parties to the United Nations treaties on outer space the model letter and informational material encouraging their States to participate in those treaties agreed upon by the Working Group (A/AC.105/826, annex I, para. 6 and appendix I), and endorsed by the Legal Subcommittee. The Committee also agreed that the Secretary-General should send a similar letter to intergovernmental organizations that had not yet declared their acceptance of the rights and obligations under those treaties.

151. The Committee endorsed the recommendation of the Legal Subcommittee to extend the mandate of the Working Group under this item for one additional year, to 2005, and agreed that the Subcommittee, at its forty-fourth session, should review the need to extend the mandate beyond 2005 (A/AC.105/826, para. 35).

152. The Committee welcomed the information provided by some delegations on the current status of the five United Nations treaties on outer space and on the further action that those delegations intended to take in order to accede to or ratify those treaties. The Committee also welcomed the reports from member States indicating their progress in developing national space laws.

153. The Committee agreed that the treaties on outer space had established a framework that had encouraged the exploration of outer space and had benefited both space-faring and non-space-faring States.

154. The view was expressed that, due to new developments in space activities, such as the commercialization of space and the increased risk of harming the space environment, there was a need for the negotiation of a new, comprehensive convention on outer space law to further strengthen the international legal regime covering outer space activities. That delegation was of the view that a single, comprehensive convention could cover all aspects of outer space activities.

155. The view was expressed that entertaining the possibility of negotiating a new, comprehensive space law instrument could only serve to undermine the existing framework of international space law.

156. The Committee noted with appreciation that the workshop on space law had been hosted by the Republic of Korea and held in Daejeon, Republic of Korea, from 3 to 6 November 2003. The Committee welcomed the announcement that the next workshop on space law would be hosted by Brazil and held from 22 to 25 November 2004.

2. Information on the activities of international organizations relating to space law

157. The Committee noted that, in accordance with General Assembly resolution 58/89, the Legal Subcommittee had considered information on the activities of international organizations relating to space law as a regular item.

158. The Committee noted with satisfaction that the Legal Subcommittee had been provided with reports from various international organizations on their activities relating to space law and endorsed the agreement by the Legal Subcommittee that the Secretariat should again invite international organizations to provide reports to the Subcommittee at its forty-fourth session, in 2005.

159. The Committee noted that the World Commission on the Ethics of Scientific Knowledge and Technology (COMEST) of UNESCO was considering the potential for international action in the area of space ethics, including bilateral consultations to study the feasibility of a declaration on the principles of ethics relating to outer space and of action that could be taken in relation to education, raising awareness of ethics, international cooperation and data management. In that context, UNESCO had taken into consideration the recommendations of the Group of Experts on the Ethics of Outer Space established by the Committee at its forty-fourth session, which had been transmitted to UNESCO in 2003.

160. The Committee noted that the Legal Subcommittee, at its forty-third session, had been informed that the recommendations of COMEST would be revised in order to develop more specific and concrete proposals. The Committee also noted that COMEST, together with ESA and the European Centre for Space Law, was planning to hold a conference on the legal and ethical framework for astronaut activities in the era of the International Space Station in Paris in October 2004.

3. Matters relating to: (a) the definition and delimitation of outer space; and (b) the character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union

161. The Committee noted that, in accordance with General Assembly resolution 58/89, the Legal Subcommittee had continued to consider as a regular item matters relating to (a) the definition and delimitation of outer space; and (b) the character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union (ITU).

162. The Committee noted that the working group on this item had been re-established under the chairmanship of Déborah Salgado Campaña (Ecuador) to consider only matters relating to the definition and delimitation of outer space, in accordance with the agreement reached by the Legal Subcommittee at its thirty-ninth session and endorsed by the Committee at its forty-third session.

163. The Committee noted that the Legal Subcommittee, at its forty-fourth session, would continue examining the document entitled "Analytical summary of the replies to the questionnaire on possible legal issues with regard to aerospace objects" (A/AC.105/C.2/L.249 and Corr.1) and that, in order to enhance its contents, Member States that had not yet replied to the questionnaire on aerospace objects should be

invited to do so. The Committee further noted that the working group on this item would be reconvened during the forty-fourth session of the Subcommittee.

164. Some delegations reiterated the view that the geostationary orbit was a limited natural resource with sui generis characteristics that risked saturation and that its utilization should be based on the principle of rational and equitable access for all countries, taking into account the special needs of developing countries, the geographical position of certain countries and the process of ITU.

4. Review and possible revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space

165. The Committee noted that, in accordance with General Assembly resolution 58/89, the Legal Subcommittee had continued its consideration of the review and possible revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space as a single issue/item for discussion.

166. The Committee noted that an exchange of views had taken place in the Legal Subcommittee on the review and possible revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space, as reflected in the report of the Subcommittee (A/AC.105/826, paras. 60-65), in which reference was made to the work currently being undertaken by the Scientific and Technical Subcommittee under the item entitled "Use of nuclear power sources in outer space".

5. Examination of the preliminary draft protocol on matters specific to space assets to the Convention on International Interests in Mobile Equipment (opened for signature at Cape Town on 16 November 2001)

167. The Committee noted that, in accordance with General Assembly resolution 58/89, the Legal Subcommittee had considered a single issue/item for discussion entitled "Examination of the preliminary draft protocol on matters specific to space assets to the Convention on International Interests in Mobile Equipment (opened for signature at Cape Town on 16 November 2001)".

168. The Committee noted that, in accordance with resolution 58/89, the Legal Subcommittee had considered two sub-items under that agenda item:

"(a) Considerations relating to the possibility of the United Nations serving as supervisory authority under the preliminary draft protocol;

"(b) Considerations relating to the relationship between the terms of the preliminary draft protocol and the rights and obligations of States under the legal regime applicable to outer space."

169. The Committee noted that, in accordance with resolution 58/89, the Legal Subcommittee had established a working group on that item. The chairman of the working group was Vladimír Kopal (Czech Republic).

170. The Committee endorsed the recommendation of the Legal Subcommittee to establish an open-ended ad hoc working group, composed of at least two representatives from each of the regional groups, to continue between the forty-third and forty-fourth sessions of the Subcommittee, by electronic means, the consideration of the question of the appropriateness of the United Nations acting as supervisory authority. The working group would prepare a report, including the text

of a draft resolution, to be submitted to the Subcommittee for consideration at its forty-fourth session, in 2005. The Committee endorsed the recommendation of the Subcommittee to appoint the Netherlands as coordinator of the open-ended ad hoc working group.

171. The Committee noted that the second session of the International Institute for the Unification of Private Law (Unidroit) committee of governmental experts for the consideration of the preliminary draft protocol would be held in Rome from 26 to 28 October 2004 and that member States of the Committee would be invited to attend the session.

172. The Committee invited Unidroit to consider the possibility of holding the sessions of the committee of governmental experts in Vienna, taking into account the resources that would be needed.

173. The Committee noted that a colloquium on the preliminary draft protocol on space assets had been held in Kuala Lumpur from 22 to 23 April 2004.

174. Some delegations expressed the view that the Convention on International Interests in Mobile Equipment and the future protocol on matters specific to space assets would bring benefits to countries at different levels of economic and technological development and enable less developed countries, in particular, to take an active part in space activities by reducing the financial risk and burden arising from those activities.

175. The view was expressed that the level of interest in the draft space assets protocol was indicative of the importance of private activities in the future development of outer space activities and of the need to facilitate the establishment of adequate financing mechanisms for such activities.

176. Some delegations expressed the view that the United Nations was, in principle, the most appropriate organization to exercise the functions of supervisory authority and that, by exercising those functions, the United Nations would enhance its role in promoting international cooperation for the benefit of all and in encouraging the progressive development of international law and its codification.

177. Some delegations expressed the view that, if the United Nations assumed the functions of supervisory authority, it would be necessary to ensure that the United Nations did not incur any cost associated with exercising those functions and would be exempted from liability for damage.

178. Some delegations expressed the view that it was important to examine carefully the issues regarding the possibility of the United Nations serving as supervisory authority. Those delegations were of the view that a number of both practical and fundamental issues remained to be resolved before the Subcommittee could decide on the appropriateness of the United Nations serving as supervisory authority under the future space assets protocol.

179. The view was expressed that it was necessary to explore the possibility of an international body other than the United Nations serving as supervisory authority under the future protocol, as the exercise of that function was outside the mandate of the United Nations as enshrined in its Charter. That delegation was of the view that it would be more effective and efficient for Unidroit to assume the functions of

supervisory authority, since the Convention and the draft protocol had been developed under the aegis of Unidroit.

180. The view was expressed that it was questionable whether, for both legal and practical reasons, it would be appropriate for the United Nations to serve as supervisory authority under the future space assets protocol.

181. Some delegations expressed the view that the Committee should continue to study the practical experiences of the International Civil Aviation Organization in its role as Supervisory Authority under the Protocol to the Convention on International Interests in Mobile Equipment on Matters Specific to Aircraft Equipment.

182. The view was expressed that the functions of the supervisory authority should be entrusted to an existing international organization.

183. The view was expressed that, after consideration of the legal, administrative and cost aspects, it would be necessary for the General Assembly to provide policy direction with regard to the mandate of the Committee and to its role in the implementation of the future protocol on matters specific to space assets.

184. Some delegations expressed the view that the Convention and the future protocol would neither undermine nor compromise existing principles of international space law and that, in case of conflict, the norms of public international law contained in the United Nations treaties on outer space would prevail.

185. Some delegations expressed the view that the Convention and draft space assets protocol did not affect the rights and obligations of States under the legal regime applicable to outer space or compromise generally recognized principles of space law, as provisions had been included in both the preamble and the operative part of the draft space assets protocol (article XXI bis) that would guarantee that the United Nations treaties on outer space would be respected by the States parties to the future space assets protocol.

186. Some delegations expressed the view that the future protocol should clearly specify the primacy of the United Nations treaties on outer space and that nothing in the future protocol should prejudice States' rights and obligations under the outer space treaties, in particular, a State's international responsibility for space activities conducted by a non-governmental entity of that State.

187. Some delegations expressed the view that it was vital to emphasize in the future protocol the public nature of the services that satellites carried, particularly in developing countries, and that safeguards should be put in place to protect the vital national interests of those States in case of default.

6. Practice of States and international organizations in registering space objects

188. The Committee noted that, in accordance with General Assembly resolution 58/89, the Legal Subcommittee had considered the practice of States and international organizations in registering space objects in accordance with the work plan adopted by the Committee at its forty-sixth session.[9] The Committee took note of the discussion of the Subcommittee under that agenda item, as reflected in the report of the Subcommittee (A/AC.105/826, paras. 109-120).

189. The view was expressed that consideration of this agenda item provided an opportunity for the Legal Subcommittee to make an important contribution to facilitating the exchange of information on practices and laws of States relating to the implementation of the core space law treaties.

190. The view was expressed that the essential aspect of the work under this agenda item was to identify the practice of States under the Convention on Registration of Objects Launched into Outer Space (General Assembly resolution 3235 (XXIX), annex) and to draft recommendations aimed at enhancing adherence to that Convention.

7. Draft provisional agenda for the forty-fourth session of the Legal Subcommittee

191. The Committee noted that, in accordance with General Assembly resolution 58/89, the Legal Subcommittee had considered an item entitled "Proposals to the Committee on the Peaceful Uses of Outer Space for new items to be considered by the Legal Subcommittee at its forty-fourth session".

192. The Committee noted that an exchange of views had taken place in the Legal Subcommittee on numerous proposals by member States for new agenda items and that agreement had been reached on a proposal to the Committee for the agenda of the forty-fourth session of the Subcommittee, in 2005, as reflected in its report (A/AC.105/826, paras. 121-134).

193. The Committee noted that the Legal Subcommittee had considered a proposal on space debris, submitted by France and supported by member and cooperating States of ESA, for inclusion on the agenda of the Subcommittee at its forty-fourth session (A/AC.105/826, para. 122 (e)).

194. Some delegations expressed the view that, in addition to the discussions on the technical aspects of space debris in the Scientific and Technical Subcommittee, the Legal Subcommittee should also consider the legal aspects of space debris.

195. Some delegations expressed the view that, although some member States needed more time to adopt the space debris mitigation guidelines presented to the Scientific and Technical Subcommittee by IADC, the Legal Subcommittee should include on its agenda a new item on space debris, as proposed by France and supported by member and cooperating States of ESA.

196. The Committee noted that the Subcommittee had considered a proposal for a single issue/item for discussion entitled "Analysis of current remote sensing practices within the framework of the Principles Relating to Remote Sensing of the Earth from Outer Space", submitted by Brazil for inclusion on the agenda of the Subcommittee at its forty-fourth session (A/AC.105/826, para. 128).

197. Some delegations expressed the view that the Subcommittee, at its forty-fourth session, should again consider the proposal submitted by Brazil.

198. On the basis of the deliberations of the Legal Subcommittee at its forty-third session, the Committee agreed on the following draft provisional agenda for the forty-fourth session of the Legal Subcommittee, in 2005:

Regular items

1. Opening of the session and adoption of the agenda.
2. Statement by the Chairman.
3. General exchange of views.
4. Status and application of the five United Nations treaties on outer space.
5. Information on the activities of international organizations relating to space law.
6. Matters relating to:
   (a) The definition and delimitation of outer space;
   (b) The character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union.

Single issues/items for discussion

7. Review and possible revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space.
8. Examination of the preliminary draft protocol on matters specific to space assets to the Convention on International Interests in Mobile Equipment (opened for signature in Cape Town on 16 November 2001):
   (a) Considerations relating to the possibility of the United Nations serving as supervisory authority under the future protocol;
   (b) Considerations relating to the relationship between the terms of the future protocol and the rights and obligations of States under the legal regime applicable to outer space.

Items considered under work plans

9. Practice of States and international organizations in registering space objects.

   (Examination by a working group of the reports submitted by member States and international organizations in 2004.)

New item

10. Proposals to the Committee on the Peaceful Uses of Outer Space for new items to be considered by the Legal Subcommittee at its forty-fifth session.

E. Spin-off benefits of space technology: review of current status

199. In accordance with paragraph 44 of General Assembly resolution 58/89, the Committee resumed its consideration of the item entitled "Spin-off benefits of space technology: review of current status".

200. The Committee heard a presentation entitled "Space bio-technology applications to increase agricultural and medical production", by Xie Shen Meng of China.

201. The publication *Spinoff 2003*, submitted by the National Aeronautics and Space Administration (NASA) of the United States, was made available to the Committee.

202. The Committee agreed that spin-offs of space technology should be promoted because they stimulated the economy through the creation of new and innovative technologies. Spin-offs also contributed to raising living standards through improvements in science and technology.

203. In the field of medical research, the Committee took note of a portable, battery-powered device that collected physiological data from off-the-shelf instruments regularly used at home by patients with high blood pressure, diabetes, congestive heart failure or respiratory conditions and transmitted the data over a standard telephone line to the patient's hospital for retrieval and analysis. The process enabled a health-care team to note changes in a patient's condition immediately and make appropriate recommendations for action, leading to fewer emergency hospitalizations. The Committee also took note of a laser radar eye-tracking device that could be used to correct short- and long-sightedness and astigmatism. The device also enabled surgeons to measure and address visual distortions that had previously gone undetected.

204. Also in the field of medical research, the Committee noted that a new portable chemistry analyser for animals was enabling veterinary surgeons to obtain a clear, comprehensive picture of an animal's physical condition in under 15 minutes. The analyser eliminated the need for follow-up calls and visits, thereby freeing staff to undertake other clinical interventions.

205. In the field of the environment and resource management, the Committee noted that a battery-free, solar-powered refrigerator had become available for use in homes and facilities that had only limited solar-lighting capabilities. The refrigerator was designed to function in arid and semi-arid regions, running on as little as 90-120 watts of rated photovoltaic power. The Committee also took note of the application of a waste-material disposal system for environmental protection.

206. The Committee took note of activities that had utilized information from remote sensing from several satellite sensors to combat coal fires in China, flooding in France and forest fires in Portugal in 2003.

207. The Committee recommended that it should continue its consideration of the item at its forty-eighth session, in 2005.

F. Space and society

208. In accordance with paragraph 45 of General Assembly resolution 58/89, the Committee continued to consider the agenda item entitled "Space and society". The Committee recalled that, in accordance with the work plan adopted by the Committee and approved by the General Assembly, the special theme for the focus of discussions for the period 2004-2006 should be "Space and education".[10] According to the work plan, the Committee held discussions and presentations under the subject "Space in education and education in space".

209. The Committee heard the following presentations:

(a) "Activities of the African Regional Centre for Space Science and Technology Education—in English language", by E. Balogun of Nigeria;

(b) "Activities of the African Regional Centre for Space Science and Technology Education –in French language", by A. Touzani of Morocco;

(c) "Activities of the Centre for Space Science and Technology Education in Asia and the Pacific", by V. Sundararamaiah of India;

(d) "Activities of the Regional Centre for Space Science and Technology Education in Latin America and the Caribbean", by T. Sausen of Brazil;

(e) "Global Learning and Observations to Benefit the Environment (GLOBE) programme", by L. Wigbels of the United States;

(f) "Education for a new age: the programmes of the Space Foundation", by E. Pulham of the United States.

210. The Committee noted with appreciation the valuable contribution made to education and capacity-building in space science and technology by the regional centres for space science and technology education, established in Africa, Asia and the Pacific and Latin America and the Caribbean on the basis of affiliation with the United Nations.

211. The Committee noted with appreciation the significant levels of resources in infrastructure, in expert knowledge and in funding that the host Governments and institutions of the centres were providing for the operation of the centres and called on Member States within and outside the regions, space-related institutions and intergovernmental and non-governmental entities to support the operations of the centres.

212. The Committee noted with satisfaction a presentation made by a Director of the Regional Centre for Space Science and Technology Education in Latin America and the Caribbean, who had indicated that the Centre would consider sending invitations to all States of the region to join the Governing Board of the Centre.

213. The Committee noted that the Space Education Programme of UNESCO aimed at enhancing space subjects and disciplines in schools and universities, particularly in developing countries, and raising awareness among the general public of the benefits of space technology for social, economic and cultural development. The Committee noted that UNESCO was the lead United Nations agency for the United Nations Decade of Education for Sustainable Development (2005-2014).

214. The Committee also noted the invitation from UNESCO to develop, within its Space and Education Programme, a few small education pilot projects on a regional basis. Such projects should be pedagogically sound and easy to disseminate and might include, for example, the development of thematic brochures. The Committee welcomed the invitation and agreed that the United Nations Programme on Space Applications should establish contact with UNESCO with a view to launching those projects within the framework of the United Nations Decade of Education for Sustainable Development.

215. The Committee noted that data derived from outer space and services such as remote sensing and telecommunications were improving the lives of people throughout the world. The Committee also noted important applications of space technology in many fields, such as distance education, water resource management, disaster management, weather forecasting, transport, public safety, oceanography and fisheries, archaeology, mapping and many others.

216. The Committee noted that a number of national tele-education initiatives were providing educators and students at all levels, including those in remote areas, with qualitative education consisting of the latest teaching resources, vocational and teacher-training and adult education in fields such as women's empowerment, family planning and skills for local artisans.

217. The Committee noted with satisfaction that, at the global level, a large number of education and outreach activities and programmes for children, young people and the general public currently being established by space agencies and international organizations aimed at promoting awareness of the benefits of space science and technology and encouraging children to consider careers in the fields of mathematics and science.

218. The Committee noted that there were a number of national educational initiatives aimed at using content, materials and applications unique to space activities for training students and teachers, including the NASA Educator Astronaut Programme, Explorer Schools Programme and Explorer Institutes and the Science and Technology Scholarship Programme; "space camps" in Malaysia and the Republic of Korea; space science quizzes, rocket-launching and model rocket competitions; the Japan Aerospace Exploration Agency space education centre; the international space education board; the German Aerospace Centre "School Lab"; the Canadian space programme; and the Canadian programme for the professional development of educators.

219. The Committee also noted a number of national education initiatives aimed at educating the general public on matters relating to outer space, including the astronaut costume design contest of Malaysia and general seminars, workshops, symposiums and lectures.

220. The Committee noted the utilization of the Internet for purposes of disseminating information on outer space and providing a resource for educators, students and the general public.

221. The Committee noted that World Space Week, observed each year from 4 to 10 October pursuant to General Assembly resolution 54/68 of 6 December 1999, contributed to the development of education and raised awareness about outer space, particularly among young people and the general public. The Committee noted that

over 40 countries had participated in World Space Week in 2003 and that the theme and focus of the activities for 2004 was "Space and sustainable development".

222. The view was expressed that capacity-building in the use of space science and technology and their applications was fundamental to ensuring that space activities supported the global development agenda. Sound knowledge of the opportunities that space activities could offer was necessary to address critical issues such as the reduction of poverty, hunger, disease and the sustainable use of natural resources.

223. The view was expressed that improvements to education were essential for capacity-building in developing countries to enable the assimilation of the higher technologies required for space application programmes and that the increasing demand for quality education in professional colleges required a massive infusion of new infrastructure that would be difficult to accomplish by using conventional approaches. The need to enhance knowledge at all levels of education and the shortage of qualified educators and infrastructure could only be addressed by using satellite-based instruction and education.

224. The view was expressed that an Internet portal for capacity-building and space-related training resources should be established by the Office for Outer Space Affairs and workshops and symposiums should be organized by the Office on a regular basis to enable the exchange of experiences and information among youth.

225. The view was expressed that the use of space applications in relation to health was important for the development of States.

226. The view was expressed that education in space science and technology should be considered a primary goal of global space programmes to avoid future shortages of scientists and engineers. In addition, the migration of space professionals to a few developed countries could have the side effect of reducing the size of the global space market. That delegation expressed the opinion that the Committee should consider making appropriate recommendations to member States on that issue. For instance, the participation of countries with lower space technology potential in international space missions and projects could be recommended as a way of building global capacity.

G. Space and water

227. In accordance with paragraph 46 of General Assembly resolution 58/89, the Committee considered a new agenda item entitled "Space and water".

228. The Committee noted with satisfaction the addition of this item to its agenda. The Committee also noted that the General Assembly, in its resolution 58/217 of 23 December 2003, had proclaimed the period from 2005 to 2015 the International Decade for Action, "Water for Life".

229. The Committee heard a presentation entitled "Application of space-based technology in water resources and management in Nigeria: experiences and expectations", by C. Maduabuchi of Nigeria.

230. The Committee noted with satisfaction that several space- and water-related events had been held, such as the international workshop entitled "Earth Observation for Integrated Water Resources Management in Africa", held in Rabat

in October 2003; the International Conference on Space and Water: Towards Sustainable Development and Human Security, held in the context of the International Air and Space Fair in Santiago in April 2004; and the upcoming Symposium on Water for the World: Space Solutions for Water Management, to be held in Graz, Austria, in September 2004.

231. The Committee noted that important initiatives had been undertaken since the issue had been raised during the forty-sixth session of the Committee. Among them was the "TIGER" initiative on Earth observation for integrated water resources management in Africa, developed in cooperation with the Office for Outer Space Affairs, UNESCO and CEOS in response to the World Summit on Sustainable Development.

232. The Committee noted that, in response to the deepening water crisis, space technology could contribute to improving water resource management by providing data and information on the availability of water resources and water use. In that regard, the Committee also noted that space-based data were an important element in the promotion of international cooperation in water resource development and management.

233. Some delegations expressed the view that space technology could offer the basis for a leap from a competitive to a cooperative approach to water management and for the joint integrated development and use of that increasingly scarce resource. Those delegations also expressed the view that space-based data could contribute to confidence-building among countries sharing water resources.

234. The Committee took note of the importance of having up-to-date and accurate information on levels of sea and river water, approaching storms, rainfall and the state of water-related structures in preventing and mitigating the consequences of floods.

235. The Committee noted that the issue of water resources had been considered by United Nations bodies at the national level for several decades and that the shortage of water resources was acute in many regions, particularly in arid and semi-arid areas.

236. The Committee noted that groundwater was an important source of water for a number of countries and that remote sensing was useful in the search for groundwater prospect zones, as it provided basic information on geology, landforms, soils, land use and land cover, surface-water bodies and other variables promptly and reliably at less cost and with less manpower than conventional techniques.

237. The Committee further noted that space technology could be used to assess, among other things, precipitation activity, soil moisture, changes in underground water storage, flood areas, surface temperature, levels of radiation, and vegetation type and health, as well as to forecast the growth of poisonous algae in seas, lakes and rivers.

238. The Committee noted the ongoing use of satellites to protect water resources and identify and assess water-related problems, including various hydrological extremes such as El Niño and La Niña and monsoons, that could result in floods and droughts. Those satellites included the Synthetic Aperture Radar Satellite (RADARSAT)-1 of Canada, a series of remote sensing satellites of China, the China-Brazil Earth Resources Satellite (CBERS), Japan's missions on board

national and foreign satellites, NigeriaSat-1 of Nigeria and operational and research satellites of the United States.

239. The Committee noted that significant work on water resource management was being carried out by India using the Indian Remote Sensing series of satellites.

240. The Committee noted that remote sensing could provide local, regional and transboundary monitoring of water quality, including the impact of pollutants and erosion as indicated by changes in water colour, turbidity and/or biological activity. Remote sensing could also measure wetland boundaries and map surface vegetation and water, thereby helping to monitor the overall health of a region. The Committee also noted the need for the global water cycle to be observed by satellite in order to reduce the uncertainty of local assessments and forecasts.

241. The Committee noted that the scientific data on water resources provided by satellites, once converted into practical information, could be used to formulate policy and implement programmes at the national, regional and international levels, including those of the World Bank and other entities of the United Nations system.

242. The Committee agreed that it was essential to assess possible contributions by space technology in order to improve the management of water resources. In that regard, the Committee noted that States members and observers of the Committee and entities of the United Nations system should be invited to share their experiences in the use of space-related technology for water resource management. The Committee invited the United Nations Development Programme and the World Bank to report on the potential for the implementation of space technology in national and international water resource management at the forty-eighth session of the Committee, in 2005.

243. The Committee appealed to national and international space agencies to share their knowledge and provide assistance to water management institutions. The Committee also invited its members to formulate and implement pilot projects in water resource management with the use of space technology.

244. The Committee agreed that more seminars and regional conferences should be held on the use of space-based applications in water resource management.

245. The Committee agreed to continue the consideration of this item at its forty-eighth session, in 2005.

246. The view was expressed that water resource management should become a priority issue for the United Nations Programme on Space Applications.

247. The Committee noted that, given that global issues such as climate change, disease-monitoring and human safety were becoming increasingly important in day-to-day life, the future role of satellite technology was likely to extend beyond the applications currently known. The Committee also noted that improved capabilities of future technologies would assist in providing near-real-time information products and render them increasingly user-friendly and more compatible with other data sources.

H. Composition of the bureaux of the Committee and its subsidiary bodies for the period 2006-2007

248. In accordance with paragraph 13 of General Assembly resolution 58/89 and pursuant to the measures relating to the working methods of the Committee and its subsidiary bodies as endorsed by the Assembly in its resolution 52/56 of 10 December 1997, the Committee considered the composition of the bureaux of the Committee and its subsidiary bodies for the period 2006-2007.

249. The Committee noted that the Group of Western European and other States had endorsed the candidature of Gérard Brachet (France) for the office of Chairman of the Committee on the Peaceful Uses of Outer Space for the period 2006-2007.

250. The Committee noted that the Group of African States had endorsed the candidature of Paul R. Tiendrebeogo (Burkina Faso) for the office of Second Vice-Chairman/Rapporteur of the Committee on the Peaceful Uses of Outer Space for the period 2006-2007.

251. The Committee noted that the Group of Latin American and Caribbean States had endorsed the candidature of Raimundo González Aninat (Chile) for the office of Chairman of the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space for the period 2006-2007.

252. The Committee urged the Group of Asian States and the Group of Eastern European States to reach a consensus on their candidates for Chairman of the Scientific and Technical Subcommittee and the first Vice-Chairman of the Committee respectively, before the fifty-ninth session of the General Assembly.

I. Other matters

1. Proposed strategic framework for the period 2006-2007

253. The Committee had before it the strategic framework for the programme on the peaceful uses of outer space for the biennium 2006-2007 as contained in document A/59/6 (Prog. 5). The Committee agreed on the strategic framework.

254. The Committee noted that the strategic framework identified the priority areas for supporting the implementation of the recommendations of UNISPACE III, including those of relevance to the actions recommended in the Plan of Implementation of the World Summit on Sustainable Development[11] and the Plan of Action of the World Summit on the Information Society.

2. Membership of the Committee

255. In accordance with General Assembly resolution 58/89, the Committee considered the application of the Libyan Arab Jamahiriya for membership in the Committee.

256. The Committee recalled the request of the General Assembly to conduct constructive consultations within the Committee as well as among regional groups, taking into account the principle of equitable geographical distribution, with a view to reaching a positive and final decision on the membership of the Libyan Arab Jamahiriya at the fifty-ninth session of the General Assembly.

257. The Committee also noted the application of Thailand for membership of the Committee.

258. The Committee agreed to recommend to the General Assembly at its fifty-ninth session, in 2004, that the Libyan Arab Jamahiriya and Thailand should become members of the Committee.

3. Participation in the work of the Committee

259. In accordance with paragraph 48 of General Assembly resolution 58/89, the Committee considered ways to improve participation by member States and entities with observer status in its work. The Committee recalled that the Assembly, in its resolution 58/89, had requested the Committee to agree on specific recommendations in that regard at its forty-eighth session, in 2005.

260. The Committee expressed its concern that some of its members had not been participating in the work of the Committee and its subsidiary bodies on a regular basis. In response to a request by the General Assembly, the Committee agreed to develop, at its forty-eighth session, in 2005, measures that could be undertaken by the Committee to encourage greater participation by its members in the work of the Committee and its subsidiary bodies.

261. The Committee agreed that each of the regional groups had responsibility actively to promote the participation in the work of the Committee and its subsidiary bodies of the member States of the Committee that were also members of the respective regional group. In that regard, the Committee agreed that the regional groups should consider the matter among their members.

262. The Committee agreed that the Chairman or other members of the bureaux of the Committee and its subsidiary bodies should hold ad hoc meetings with the chairperson of each of the regional groups concerning the enhancement of participation of member States of the Committee that were also members of the respective regional group

263. Some delegations expressed the view that the Chairman or other members of the bureaux of the Committee and its subsidiary bodies should establish direct contact with those member States of the Committee that had not been participating on a regular basis in the work of the Committee and its subsidiary bodies.

264. The Committee noted that some of the entities of the United Nations system that had relevance to the work of the Committee had not been participating in the work of the Committee and its subcommittees in recent years. In that regard, the Committee agreed that the Office for Outer Space Affairs should bring to the attention of the members of the Inter-Agency Meeting on Outer Space Activities, at its twenty-fifth session, the question of the enhancement of the participation of the entities of the United Nations system in the work of the Committee, its Legal Subcommittee and its Scientific and Technical Subcommittee. The Committee also agreed that the Office for Outer Space Affairs, as the secretariat of the Inter-Agency Meeting, should report on the outcome of the discussions of the Inter-Agency Meeting to the Scientific and Technical Subcommittee and the Legal Subcommittee.

265. The Committee agreed that the Legal Subcommittee should, at its forty-fourth session, address the level of participation of the entities having permanent observer

status with the Committee and report to the Committee on means of enhancing their participation in the work of the Legal Subcommittee.

4. New item on the agenda of the Committee

266. The Committee heard a proposal from the Syrian Arab Republic, supported by other delegations, to include a new item on the agenda of the Committee for its forty-eighth session, in 2005, entitled "Space and archaeology".

267. The Committee agreed that a symposium on space and archaeology should be held during the forty-eighth session of the Committee.

5. Special presentation

268. Taking into account the invaluable contribution that Karl Doetsch (Canada), Chairman of the Scientific and Technical Subcommittee during its thirty-eighth, thirty-ninth and fortieth sessions, had made to the work of the Committee, in particular his role in establishing a mechanism for implementing the recommendations of UNISPACE III, the Committee agreed that, at its forty-eighth session, he should give a special presentation on the scientific and technical aspects of the work of the Committee and the way ahead.

J. Schedule of work of the Committee and its subsidiary bodies

269. The Committee agreed on the following tentative timetable for its session and those of its subcommittees in 2005:

	Date	*Location*
Scientific and Technical Subcommittee	21 February-4 March 2005	Vienna
Legal Subcommittee	4-15 April 2005	Vienna
Committee on the Peaceful Uses of Outer Space	8-17 June 2005	Vienna

Notes

[1] *Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August-4 September 2002* (United Nations publication, Sales No. E.03.II.A.1 and corrigendum).

[2] The list contained in conference room paper A/AC.105/2004/CRP.8 was also made available electronically (www.uncoss.unvienna.org/iamos/2004/wssdlist.pdf).

[3] A footnote would be added to indicate that the theme title was intended to convey the following message: "meeting the basic needs of people and enhancing human dignity".

[4] *Official Records of the General Assembly, Fifty-seventh Session, Supplement No. 20* (A/57/20), annex II.

[5] United Nations publication, Sales No. E.04.I.6.

[6] United Nations publication, Sales No. E.04.I.5.

[7] *Official Records of the General Assembly, Fifty-sixth Session, Supplement No. 20* and corrigendum (A/56/20 and Corr.1), para. 220.

[8] A/AC.105/761, para. 130.

[9] *Official Records of the General Assembly, Fifty-eighth Session, Supplement No. 20* (A/58/20), para. 199.

[10] Ibid., para. 239.

[11] *Report of the World Summit on Sustainable Development*, chap. I, resolution 2.

Annex I

Report of the working group established to prepare a report for submission to the General Assembly at its fifty-ninth session for the review of the progress made in the implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III)

1. At its 518th meeting, on 2 June 2004, the Committee on the Peaceful Uses of Outer Space reconvened the working group established to prepare a report for submission to the General Assembly at its fifty-ninth session for the review of the progress made in the implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III), in accordance with General Assembly resolution 58/89 of 9 December 2003. At the same meeting, Niklas Hedman (Sweden) was elected Chairman of the working group.

2. The working group held 11 meetings, from 3 to 11 June 2004. At the 1st meeting, on 3 June, the Chairman recalled the work that had been carried out in the previous year in preparing the draft text of the report and the work to be completed during the forty-seventh session of the Committee.

3. It was recalled that, in accordance with General Assembly resolution 58/89, the working group had held informal consultations during the forty-first session of the Scientific and Technical Subcommittee (A/AC.105/823, paras. 69-71) and the forty-third session of the Legal Subcommittee (A/AC.105/826, paras. 106-108).

4. The working group had before it the draft report (A/AC.105/L.255 and Add.1-8) and amendments to the draft report (A/AC.105/2004/CRP.17). The working group also had before it a table showing a summary of the proposed actions, entities to carry out those actions and expected benefits (A/AC.105/2004/CRP.6), as reflected in chapter VI, section B, of the draft report entitled "Plan of Action" (A/AC.105/L.255/Add.5).

5. The working group agreed to include in the report the table showing the summary of proposed actions, entities to carry out those actions and expected benefits, amended as necessary to make the text of the table consistent with the Plan of Action.

6. At its 10th meeting, on 10 June, the working group agreed on the entire text of the draft report as amended.

7. At its 11th meeting, on 11 June, the working group adopted the present report.

Annex II

Draft resolution on the application of the concept of the "launching State", for consideration by the General Assembly

Application of the concept of the "launching State"

The General Assembly,

Recalling the Convention on International Liability for Damage Caused by Space Objects[a] and the Convention on Registration of Objects Launched into Outer Space,[b]

Bearing in mind that the term "launching State" as used in the Liability Convention and the Registration Convention is important in space law, that a launching State shall register a space object in accordance with the Registration Convention and that the Liability Convention identifies those States which may be liable for damage caused by a space object and which would have to pay compensation in such a case,

Taking note of the report of the Committee on the Peaceful Uses of Outer Space on its forty-second session[c] and the report of the Legal Subcommittee on its forty-first session, in particular the conclusions of the Working Group on the agenda item entitled "Review of the concept of the 'launching State'", annexed to the report of the Legal Subcommittee,[d]

Noting that nothing in the conclusions of the Working Group or in the present resolution constitutes an authoritative interpretation of or a proposed amendment to the Registration Convention or the Liability Convention,

Noting also that changes in space activities since the Liability Convention and the Registration Convention entered into force include the continuous development of new technologies, an increase in the number of States carrying out space activities, an increase in international cooperation in the peaceful uses of outer space and an increase in space activities carried out by non-governmental entities, including activities carried out jointly by government agencies and non-governmental entities, as well as partnerships formed by non-governmental entities from one or more countries,

Desirous of facilitating adherence to and the application of the provisions of the United Nations treaties on outer space, in particular the Liability Convention and the Registration Convention,

1. *Recommends* that States conducting space activities, in fulfilling their international obligations under the United Nations treaties on outer space, in particular the Treaty on Principles Governing the Activities of States in the

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[a] General Assembly resolution 2777 (XXVI), annex.

[b] General Assembly resolution 3235 (XXIX), annex.

[c] *Official Records of the General Assembly, Fifty-fourth Session, Supplement No. 20* and corrigendum (A/54/20 and Corr.1).

[d] A/AC.105/787, annex IV, appendix.

Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,[a] the Convention on International Liability for Damage Caused by Space Objects and the Convention on Registration of Objects Launched into Outer Space, as well as other relevant international agreements, consider enacting and implementing national laws authorizing and providing for continuing supervision of the activities in outer space of non-governmental entities under their jurisdiction;

2. *Also recommends* that States consider the conclusion of agreements in accordance with the Liability Convention with respect to joint launches or cooperation programmes;

3. *Further recommends* that the Committee on the Peaceful Uses of Outer Space should invite Member States to submit information on a voluntary basis on their current practices regarding on-orbit transfer of ownership of space objects;

4. *Recommends* that States consider, on the basis of that information, the possibility of harmonizing such practices as appropriate with a view to increasing the consistency of national space legislation with international law;

5. *Requests* the Committee on the Peaceful Uses of Outer Space, in making full use of the functions and resources of the Secretariat, to continue to provide States, at their request, with relevant information and assistance in developing national space laws based on the relevant treaties.

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[a] General Assembly resolution 2222 (XXI), annex.

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